

State Buildings Energy Conservation Program
Report to the Governor

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Executive Summary

The State Building Energy Conservation Program has increased its efforts to reduce energy use and costs in state government in the 2008-2009 biennium. Energy costs are rising. This creates a greater need for efficiency to reduce costs while at the same time offering opportunities for projects to pay for themselves over a shorter period of time. Governor Schweitzer in November of 2007 announced his 20 x 10 Initiative. This signature initiative targets 20% energy savings by the year 2010 in state government. Meeting this aggressive target of 20% in three years requires investment in building upgrades together with efficient operation of buildings, employee education, and purchasing policies for efficient computers and equipment. The State Buildings Energy Conservation Program provides the means to invest in energy efficiency in buildings and is a key element of the 20 x 10 initiative. In the biennium:

- All executive branch agencies provided energy efficiency plans to Office of Budget and Program Planning (OBPP) that included needs for building studies and renovations. DEQ reviewed the plans and is working with agencies to evaluate savings opportunities and plan building retrofits. A number of university buildings were also evaluated for projects.
- Energy consultants were hired to analyze about 50 buildings for energy efficiency. We are also taking advantage of free lighting audits from NorthWestern Energy and will participate in its incentive program to partially fund lighting upgrades. Montana applied through the National Governors' Association and was selected by Wal-Mart to receive a free energy walk-through on four buildings.
- An energy use data base was purchased and is being set up and populated for electricity and natural gas use in state-owned buildings. Agreements have been reached with utility companies to get data electronically once utility meters and state buildings have been matched.
- The Program completed 17 new projects this biennium, bringing the total number of projects to 84. These projects provided more than \$1 million in annual energy and water savings. Many more projects are being evaluated through energy audits.
- Energy prices for state government continue to rise for electricity and gas. The public service commission has approved rate hikes and contracts are expected to increase as well. The cost of not investing in energy conservation will be significant.

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Introduction/Update

This report summarizes the work and results of the State Buildings Energy Conservation Program (SBECP) from July 2006 through August 2008 and anticipated progress through the rest of the biennium. It is required under the State Buildings Energy Conservation Act, Title 90, Chapter 4, Part 6, Montana Code Annotated.

Background

The State Buildings Energy Conservation Program improves facilities and equipment at no net cost to state government when considering energy savings. Investments are made in energy and water efficiency resulting in reduced utility and other operating costs. The savings resulting from the projects are used to repay the investments. After an energy retrofit, a state agency splits its payment between lower utility costs and repayment of the investment; this total is equal to or less than the pre-retrofit energy costs it had been paying. After the investments are paid off, the state continues to realize energy and water savings, and the agency has continued benefits from the new equipment and improved buildings.

The state buildings energy conservation program started in 1989 with \$4.4 million in oil overcharge funds. These initial funds were used to finance the first four years of the program and to establish a revenue stream from re-payments of energy savings that would provide cash flow for the sale of general obligation bonds. The Stripper Well funds allocation was a one-time funding from a federal court settlement provided to Montana. The first general obligation bonds were sold in 1993 and continued through 2006. These bonds will be paid back with energy savings through 2021. In 2007, the Legislature appropriated general funds to finance the energy improvements. The savings resulting from projects will be collected and re-invested in additional energy projects on state facilities.

Program Growth—Governor Schweitzer's 20 x 10 Initiative

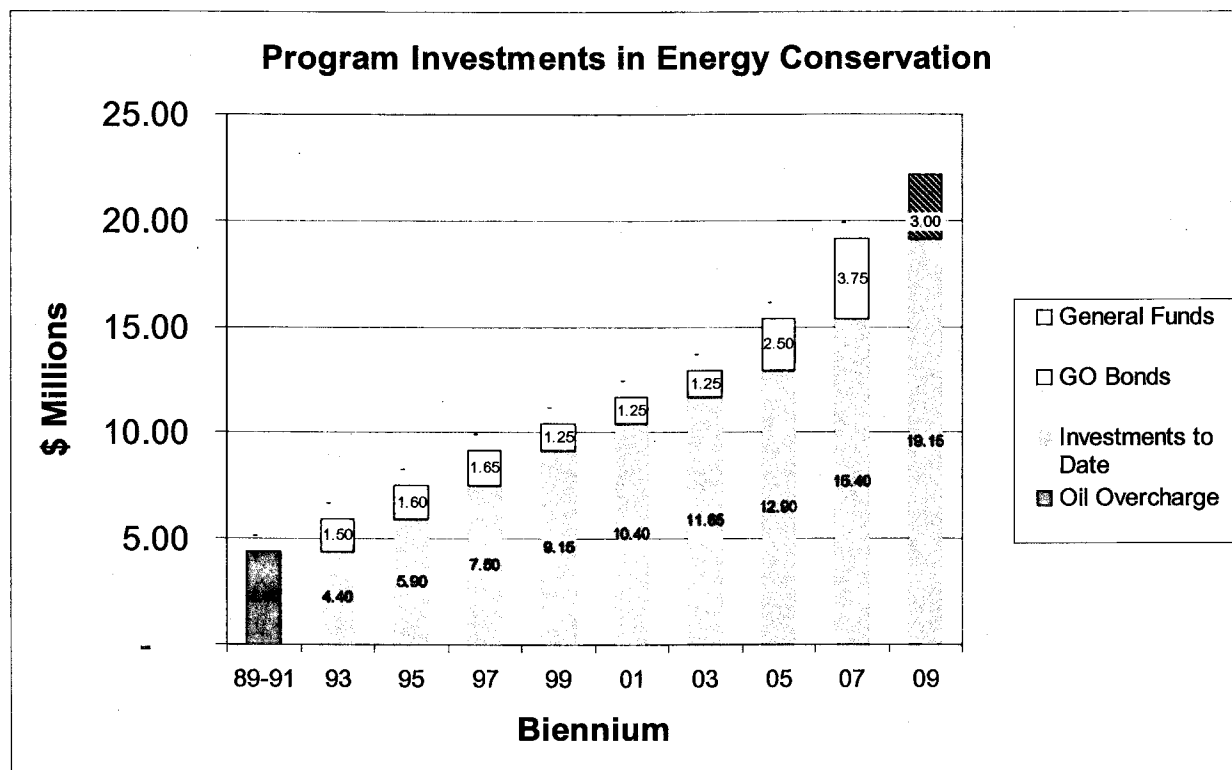
In November of 2007, Governor Schweitzer announced an initiative to reduce energy use in state government 20% by the end of 2010. This announcement followed the acceptance of the Montana Climate Change Action Plan that had been developed by a diverse group of Montanans appointed by Governor Schweitzer. One of the recommendations in the Plan was that state government should "Lead by Example." The 20 x 10 Initiative calls on executive branch agencies to reduce energy use in buildings, operations, and transportation and directs the departments of Environmental Quality, Administration and Transportation to lead the 20 x 10 effort.

The State Buildings Energy Conservation Program is one of the primary means available to state agencies to reduce energy use and energy cost in buildings. The 20X10 initiative has spurred interest by all state agencies in the program, and there has been a rapid increase in the number of energy studies being conducted in preparation for additional investments in building energy efficiency. DEQ has contacted all state agencies to assess the needs for energy studies and is initiating about 50 energy studies in the current biennium. Projects from these studies will be proposed for funding in the 2009 Legislative Session, resulting in a much larger proposal for funding than ever before. The increase in size of the proposal

for funding is timely because natural gas rates are predicted to increase by 50-60% in the next year and electricity rates are already high in most areas of the state.

Update on Projects

The program was started using \$4.4 million in Stripper Well oil overcharge funds which are now exhausted. The program has issued \$14.75 million in general obligation bonds between 1993 and 2007 and \$3 million in state general funds in 2008 and 2009 to fund projects and operate the program. The graph below shows the growth in the program over time.



The program has completed 84 projects to date. There are 7 additional projects in design and construction.

Cumulative energy savings captured through FY08 totals over \$11 million. DEQ reported to the budget office in July 2008 anticipated savings for projects completed up to that date at \$1,026,435 for FY10 and \$962,650 for FY11.

Projects come into the program in two ways: either directly to the program because of the energy saving benefits of the project; or in conjunction with other work planned under the Long Range Building Program that provides an opportunity for energy savings. DEQ contacts state agencies about the program and offers assistance in evaluating energy use and identifying energy conservation projects. Program engineers evaluate all projects proposed for the Long Range Building Program (LRBP)

administered by the state's Architecture and Engineering Division (A&E) to assess the energy savings potential on proposed remodeling projects. Projects with the potential for energy savings are funded through the State Buildings Energy Conservation Program, or are often jointly funded with the LRBP funding deferred maintenance and SBECP funding energy improvements.

Projects listed below are those completed in the 2008-2009 biennium or currently in the planning, design or construction phase.

2008-2009 Projects

<u>Agency</u>	<u>Projects Completed During 2008-2009 Biennium</u>	<u>Location</u>	<u>Project Description</u>
Administration	Last Chance Gulch Building	Helena	HVAC and envelope improvements, solar wall
Administration	Mitchell and Museum, Phase 2	Helena	HVAC system improvements
Board of Public Education	Aspen Hall	Great Falls	HVAC, lighting and control upgrades
Board of Public Education	Bitterroot Hall	Great Falls	Chiller improvements
Corrections	Montana State Prison, Dairy Dorm Expansion	Deer Lodge	Heating system and envelope improvements
Corrections	Montana State Prison, High Side Kitchen	Deer Lodge	Boiler, hot water and control improvements
Fish, Wildlife and Parks	Region 7 Shop	Miles City	HVAC, lighting and control upgrades
Justice	Aspen, Maple and Spruce Buildings	Helena	Heating system improvements
MSU-Billings	Auxiliary Buildings Boiler	Billings	Heating system improvements
MSU-Billings	Campus-wide	Billings	Automated control system
MSU Great Falls	College of Technology	Great Falls	Boiler upgrade
MSU Great Falls	COT Expansion	Great Falls	HVAC and control upgrades
MSU-Northern	Pershing Hall	Havre	HVAC, lighting and envelope improvements
Public Health and Human Services	Mental Health Nursing Care Center	Lewistown	Boiler and control improvements
University of Montana	Health Science Phase 2	Missoula	Ground water cooling, hot water, heating system and control improvements
UM Helena	College of Technology	Helena	High-efficiency heating system, controls
UM - Western	Central Plant	Dillon	Replaced campus central heating system with wood-fired boiler

<u>Projects in Construction</u>			
<u>Agency</u>	<u>Projects Completed During 2008-2009 Biennium</u>	<u>Location</u>	<u>Project Description</u>
MSU Billings	McMullen Hall	Billings	HVAC envelope and lighting upgrade
MSU Northern	Physical Education and Library	Havre	Boiler replacement
MT Tech of UM	MT Tech COT	Butte	Mechanical upgrade and lighting
<u>Projects in Design</u>			
Administration	Enterprise System Building	Helena	Air-to-Air heat Exchanger
Fish, Wildlife and Parks	Visitor Centers	Billings	Ground-coupled heat and cooling
University of Montana	Mansfield Library	Missoula	Chiller replacement and HVAC upgrade

Buildings Being Audited

Listing of Contacts with State Agencies

All executive branch state agencies have been contacted this biennium to review projects with potential for energy and cost savings. Many are proceeding with energy studies that will result in a large number of projects for the 2010-2011 biennium. In addition, DEQ has reviewed the projects proposed under the Long Range Building Program (LRBP) in conjunction with the Department of Administration's Architecture and Engineering Division. Increased efforts under LRBP for the past several years have provided increased work for the SBECF because of opportunities to save energy when other renovations are being done. Energy savings are expected to be the driving force for more projects in the future because of the high cost of energy. In addition to the executive agencies, DEQ has evaluated projects at universities and agencies attached to elected officials.

State agencies contacts were coordinated with the Office of Budget and Program Planning as part of the 20 x 10 Initiative. Agencies were asked to identify energy efficiency work in buildings, capital improvement projects, purchasing efforts and transportation efficiency in plans submitted through the budget process. DEQ reviewed the agencies' efficiency plans and worked with agencies to identify state-owned buildings that needed energy audits. The following is a list of contacts made with agencies:

Arts Council
Board of Crime Control
Board of Public Education
Department of Administration

Department of Agriculture
Department of Commerce
Department of Environmental Quality
Department of Justice
Department of Labor and Industry
Department of Livestock
Department of Military Affairs
Department of Natural Resources and Conservation
Department of Public Health and Human Services
Department of Revenue
Department of Transportation
Fish, Wildlife and Parks
Historical Society
Montana State University - Billings
Montana State University - Northern
Office of Public Defender
Office of Public Instruction
Public Service Commission
Secretary of State
State Library
University of Montana Tech
University of Montana - Missoula

Summary of Analyses Conducted by DEQ

The 20 x 10 initiative has created interest and need for energy analyses of buildings. Recognizing that achieving a 20 percent reduction in energy use in three years would require significant investment in buildings, an effort was undertaken to complete energy analyses on many buildings in 2008 to identify the potential for savings. Consultants were needed to complete analyses of buildings. DEQ selected 14 engineering firms through a request for qualifications and has negotiated contracts with 13 of the firms to complete energy analyses. In addition, DEQ and some individual state agencies have asked NorthWestern Energy to provide lighting audits on buildings where a comprehensive study is not needed. The table below shows energy analyses that have been completed and funding for projects authorized.

Energy Analyses Completed and Projects Authorized between July 1, 2006 and June 30, 2008

Agency	Building	Funding Authorized	Annual Energy Cost Savings	Status
Administration	1100 North Last Chance Gulch, Helena	\$ 85,000	\$20,000	Completed
Administration	Walt Sullivan, Helena	\$139,100	\$13,308	Completed without State Building Program funding
Board of Public Education	Aspen Hall Classroom, Great Falls	\$ 28,000	\$ 4,000	Completed
Board of Public Education	Bitterroot Hall, Great Falls	\$ 11,000	\$ 1,000	Completed
Corrections	Montana State Prison High Side Kitchen, Deer Lodge	\$151,000	\$22,000	Completed
Corrections	Montana State Prison Dairy Dorm Expansion, Deer Lodge	\$120,000	\$12,145	Completed
Justice	Law Enforcement Academy Aspen, Maple, Spruce Buildings, Helena	\$143,000	\$23,000	Completed
Montana State University, Billings	Auxiliary Bldgs, Boilers, Billings	\$424,500	\$42,000	Completed
Montana State University, Billings	McMullan Hall, Billings	\$334,160	\$23,000	In Construction
Montana State University, Great Falls	College of Technology	\$880,000	\$95,000	Completed
Montana State University, Northern	Pershing Hall, Havre	\$ 22,000	\$ 2,800	Completed
Montana State University, Northern	PE & Library Building, Havre	\$157,000	\$23,000	In Construction
Montana Tech of University of Montana	College of Technology, Butte	\$281,000	\$27,392	In Construction
Public Health and Human Services	Mental Health Nursing Care, Lewistown	\$ 85,000	\$ 8,800	Completed
University of Montana	Performing Arts, Radio and TV, Missoula	\$ 25,000	\$ 3,200	In Construction

Preliminary Analysis Completed between July 1, 2006 and June 30, 2008

This table shows the results of preliminary analysis of buildings and the potential for energy savings. Energy analyses have been completed and energy savings estimated. These projects are under development. The cost for these projects and details on how much investment can be recovered with energy savings will be determined as the projects proceed through design and bidding.

Agency	Building	Estimated Energy Savings
Administration	Liquor Warehouse, Helena	\$13,145
Administration	Records Management Bureau, Helena	\$ 3,219
Administration	Capitol Complex, Helena	\$32,000
Administration	Statewide Data Center	\$68,000
Corrections	Law Enforcement Academy Campus-wide Lighting Upgrade, Helena	\$ 850
Fish, Wildlife and Parks	Region 7 Headquarters, Miles City	\$ 3,500
Labor and Industry	Job Service Offices, Statewide	\$ 6,201
Natural Resources and Conservation	Spurgin Rd Complex, Missoula	\$ 9,131
Transportation	Headquarters, Helena	\$75,000
University of Montana, Missoula	Law Building Lighting, Missoula	\$ 7,674
University of Montana, Missoula	Mansfield Library, Missoula	\$ 3,500

Additional Projects Under Consideration

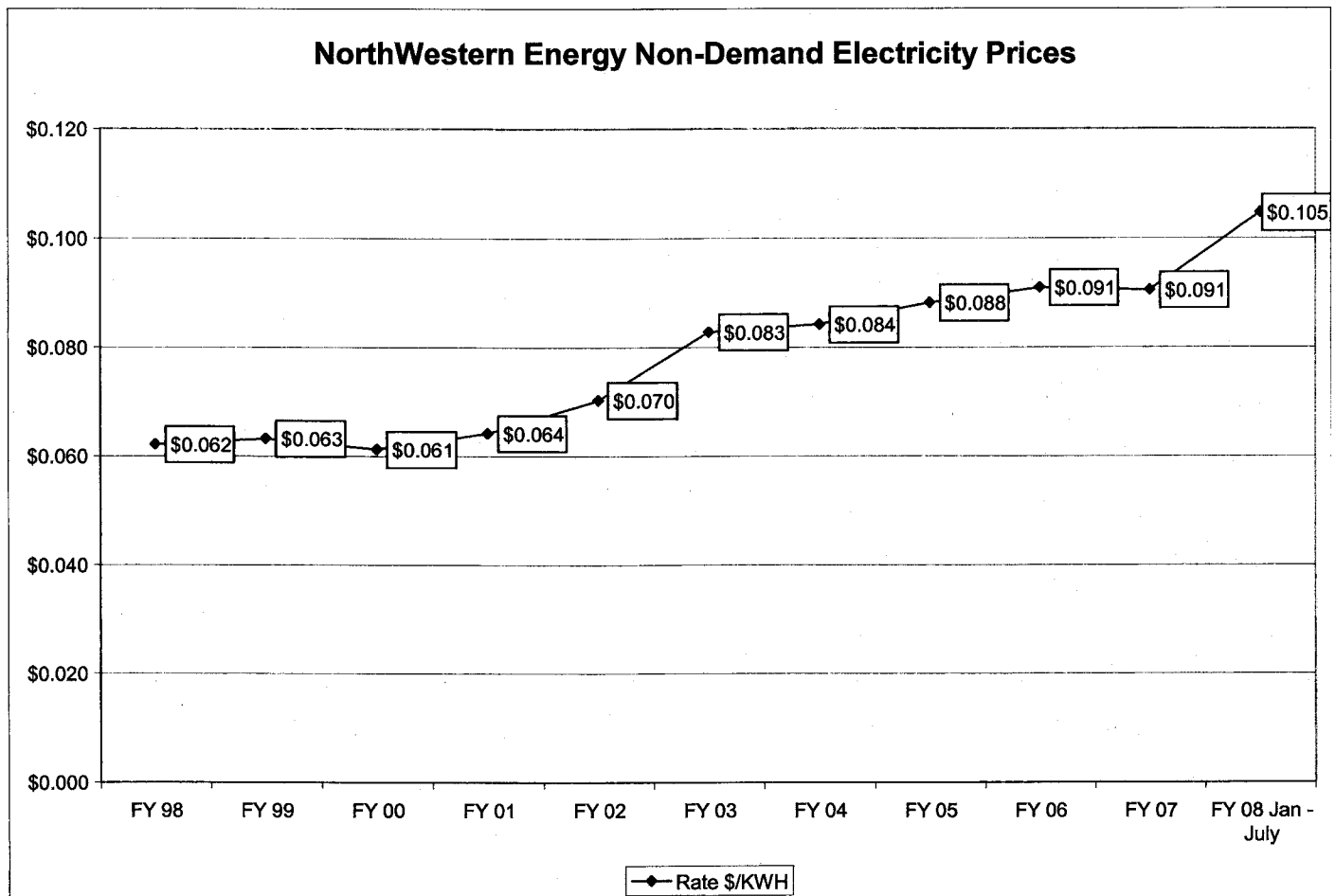
DEQ has contracted or is considering contracting for energy studies on the following buildings. Additional facilities will continue to be added to this list as an ongoing part of the State Buildings Energy Conservation Program.

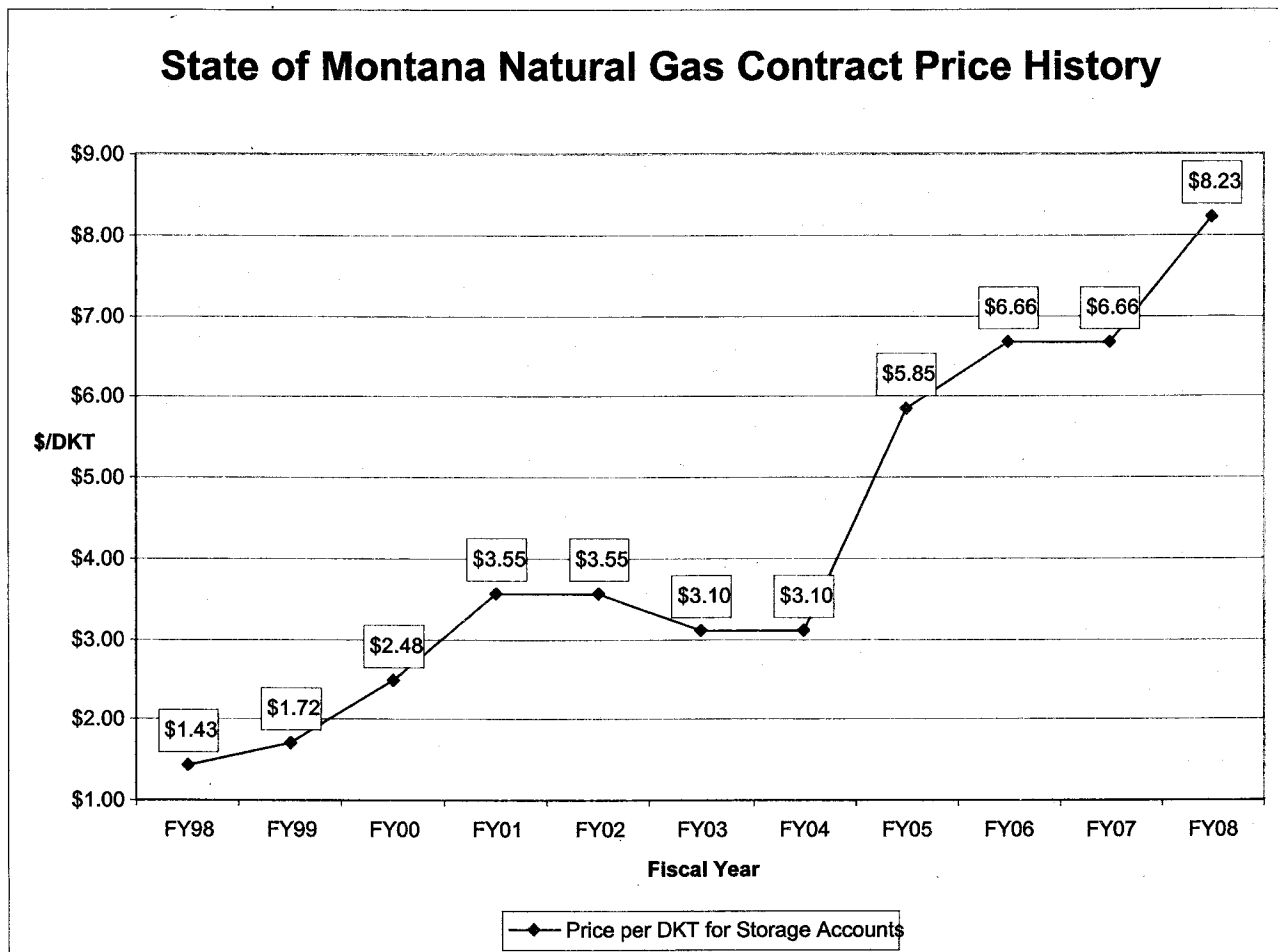
Agency	Building
Administration	Old Liquor Warehouse, Helena
Administration	Old Livestock, Helena
Administration	Scott Hart, Helena
Administration	Old Board of Health, Helena
Administration	Capitol Complex, Deferred Maintenance and Energy, Helena
Administration	Capitol Complex Controls, Helena
Administration	Mitchell Building, Helena
Administration	Historical Society Museum, Helena
Administration	Justice Building, Helena
Administration	State Fund Building, Helena
Administration	1225 8 th Avenue, Helena
Administration	1219 8 th Avenue, Helena
Administration	1209 8 th Avenue, Helena
Administration	1205 8 th Avenue, Helena
Administration	1218 E. 6 th Avenue, Helena
Administration	1236 E. 6 th Avenue, Helena
Agriculture	State Grain Lab Facility/Energy Upgrade, Great Falls
Board of Education	Montana School for Deaf & Blind, Mustang Physical Education Complex, Great Falls
Board of Education	Montana School for Deaf & Blind, Administration Building, Great Falls
Board of Education	Montana School for Deaf & Blind, Vocational Building, Great Falls
Corrections	MSP, Deer Lodge
Corrections	Riverside Youth Home, Boulder
Corrections	Prison Industries, Deer Lodge

Agency	Building
Fish, Wildlife & Parks	Administrative Facilities Statewide
Fish, Wildlife and Parks	Headquarters, Kalispell
Fish, Wildlife and Parks	Hatcheries, Statewide
Fish, Wildlife and Parks	Headquarters, Great Falls
Justice	State Crime Lab, Missoula
Labor and Industry	Job Service, Butte
Labor and Industry	Job Service, Missoula
Labor and Industry	Job Service, Miles City
Labor and Industry	Job Service, Kalispell
Labor and Industry	Job Service, Great Falls
Labor and Industry	Job Service, Bozeman
Military Affairs	Facilities Statewide
Montana State University, Bozeman	Central Plant, Bozeman
Montana State University, Northern	Auto tech Center, Havre
Montana University System	Campus-wide Improvements, Statewide
Natural Resources & Conservation	Fire and land office campuses, Statewide
Office of Public Instruction	1300 11 th Avenue, Helena
Office of Public Instruction	1227 11 th Avenue, Helena
Public Health & Human Services	Developmental Center, Boulder
Public Health & Human Services	State Hospital, Warm Springs
Public Health & Human Services	State Hospital Geothermal Development, Warm Springs
Public Health & Human Services	Veterans Home, Columbia Falls
Public Health and Human Services	Campus-wide, Boulder
Transportation	Regional Complexes, Statewide
Transportation	Headquarters, Helena
Transportation	Hanger/Aeronautics, Helena
Transportation	Headquarters Complex, Billings

Utility Budgets and Energy Procurement

Energy costs have risen dramatically in the biennium. The 2008-2009 term contract for natural gas is 23% higher than in 2007 and more than double the cost of the 2004 contract. Natural gas price increases have climbed 38% from 2007 to the present time for agencies that purchase natural gas outside of the state term contract. Electric rates also have increased steadily in recent years. It is difficult to predict whether costs will remain at current levels, return to more moderate levels, or continue to increase, although it is unlikely that they will return to the costs of the 1990s. High energy prices provide more opportunities for energy savings to pay for project costs. However, the uncertainty of future rates adds complexity to the analysis of long-term savings from investments in energy conservation. A drop in rates could make it difficult for savings to be substantial enough to cover the costs of construction. The tables below show the costs for natural gas under the state term contract and the non-demand electricity rate for NorthWestern Energy customers, the majority of state government accounts.





New Program to Track Energy Costs in State Government

Simply looking at utility bills monthly and comparing the costs of energy from one year to another can indicate an opportunity for energy savings. Anomalies in bills can show billing errors, or indicate that a building or system is experiencing problems that need to be addressed. DEQ conducted a pilot project to monitor utility bills from July 2002 through June 2005 and concluded that there was benefit in pursuing a program that would monitor utility use and cost for all agencies. When the Governor announced the 20 x 10 Initiative, one of the first things that needed to be determined was the baseline energy use of each agency. The information learned in the pilot study on utility bill monitoring was used to develop a request for proposal for software that would allow the tracking of energy use and cost. Good Steward Software submitted the winning proposal and a contract was issued for its Energy Cap software in June of 2008.

The Risk Management and Tort Claims Division of the Department of Administration provided a list of facilities insured by state government. State agencies were surveyed in December of 2007 to gather more information on buildings and facilities and on energy suppliers for natural gas, electricity, fuel oil and propane. The suppliers are being asked to provide detailed billing information for all state buildings. The process of

matching electronic billing data with physical site information into a data base is underway. The resulting data base will provide both the baseline energy use that agencies are being asked to reduce, as well as a comparative index to identify high energy consumers. All electric utilities have contributed information to this effort. NorthWestern Energy has provided its gas data, and other gas utilities are being contacted.

Progress in Addressing Additional Opportunities for Energy Efficiency in State Government

State government is a significant consumer of electricity and natural gas, spending millions of dollars a year on energy. The State Buildings Energy Conservation Program has a sound track record as an excellent program to achieve long-term energy savings. However, the role of energy conservation in state government is shared by several agencies and includes more than just the long-term energy savings from retrofits to state buildings. In 2006 a group of state officials was informally organized to look at ways to increase energy efficiency on various levels. The group included representatives from the Governor's Office, the Department of Administration's Architecture and Engineering, and General Services Divisions, and DEQ. The group identified several things that could be done to improve the efficiency in state buildings. Listed below in *italics* are the recommendations made in 2006. Progress made toward those recommendations is reported in normal font.

Recommendation 1: Determine energy use at large state facilities through a benchmarking process and identify those with potential for savings.

DEQ has purchased software and is beginning the process of collecting data on all state-owned buildings. This software is capable of providing a comparison of energy use by square footage of building, and also comparing a building's energy use to other buildings of similar size, age and use. While benchmarking has been completed on relatively few buildings at this time, the capability to benchmark buildings has been established.

Recommendation 2: Review energy efficiency evaluations performed within the past ten years and complete cost-effective improvements or changes in practices as soon as possible. Items that were not cost effective in the past may be cost effective now because of increased energy costs.

An intern was hired for the summer of 2008 to begin the process of reviewing studies on buildings completed from 1989 to the present and to begin to organize the data from those reports in both hard-copy format and with an electronic summary.

Recommendation 3: Require equipment purchases to meet energy efficient standards, such as Energy Star or premium efficiency motors.

The Departments of Administration and Environmental Quality are working together to educate state government procurement officers and all staff with responsibility to

purchase about Energy Star and to have that be the standard of choice for state procurement. Many state agencies have identified that they purchase or will purchase Energy Star computers and appliances. To assist agencies in making all purchases energy efficient and environmentally sound, the Departments of Administration and Environmental Quality jointly sponsored a training conference for state government employees and other interested city and federal governments and the private sector on green purchasing in July of 2008. There were 113 people trained at the conference.

Recommendation 4: Incorporate energy efficiency into the design of new facilities or additions. Consider LEED levels of efficiency.

The Department of Administration Architecture and Engineering Division is working on a LEED (Leadership in Energy and Environmental Design building with the University of Montana. In addition, DEQ has provided information to the Environmental Quality Council, at its request, about energy efficiency standards for new state buildings, and DEQ and DOA are commenting on proposed Legislation.

Recommendation 5: Direct agencies to manage their utility budgets. This would require getting information on energy use and expenditures to facility managers and agency directors.

Agencies were directed to reduce energy budgets as part of Governor Schweitzer's 20 x 10 Initiative, which will require managing budgets. DEQ wrote a request for proposal and selected a software system to manage energy data for state facilities. An intern and temporary position have been hired to assist in acquiring data, verify accuracy and enter into the data base.

Recommendation 6: Work with building operators and state employees to initiate energy saving programs in buildings. Provide information on low-cost or no-cost ways to save energy through building adjustments and operations. For example, the use of efficient alternatives to space heating, use of LED exit lights and duplex printing are small budget items that add up to significant savings.

Through the 20 x 10 Initiative every state agency has identified an energy coordinator. DEQ developed a model plan for every state agency and energy coordinators have developed agency plans based on the model. DEQ has conducted two training sessions so far, and will conduct additional sessions. Lighting training sessions were conducted in Billings and Helena. DEQ has and will continue to organize sessions for energy coordinators to get together to discuss what is going on in different agencies and to share information on effective programs.

Recommendation 7: Find ways to better take advantage of opportunities for short term energy savings. Particularly savings from utility company demand-side management and universal system benefit programs.

NorthWestern Energy was invited to participate in lighting training sessions in both Helena and Billings and to explain its program for lighting rebates. Agencies have been

informed of utility programs and have been encouraged to use them for small buildings, or for electric-only opportunities.

Recommendation 8: Increase retro commissioning of state buildings. Find ways to better gain savings from activities such as commissioning that do not fit well with the long-term savings nature of the State Buildings Energy Conservation Program. It is difficult to verify savings from a process like commissioning because it is not known what the savings will be before the costs are incurred for the study. It is also difficult because the savings may occur over 2-3 years making it unrealistic to finance the project over 10 to 15 years.

This recommendation will need to be worked on in the future.

Recommendation 9: Take advantage of utility company demand-side management programs. These programs provide a portion of the cost of projects, usually for electricity only. The projects are often low-cost and do not fit well with the long-term financing nature of the SBECP.

DEQ has also arranged with NorthWestern Energy to review each of the approximately 50 audits being conducted on state buildings to determine what energy savings they may be willing to provide funding for. This review may include typical savings such as lighting rebate calculations, but will also include savings from more comprehensive energy upgrades

Coordinating Efforts, Establishing Partnerships and Leveraging Funds

State government leads energy efficiency efforts in Montana because of its long-term commitment to improving energy efficiency of buildings. DEQ completes this work through partnerships with other state agencies, the federal government, the university system and utility companies. DEQ is able to help schools and local governments implement programs using the expertise gained through the State Buildings Energy Conservation Program (SBECP).

A key partner for the SBECP is the Department of Administration's Architecture and Engineering Division (A & E). A & E provides design and construction services for capital improvement projects on state-owned facilities, including the energy projects authorized through the SBECP. It also administers the Long Range Building Program (LRBP). SBECP staff engineers review LRBP proposals for potential energy conservation projects. The two agencies coordinate this review to maximize the return for the state's dollars. Including energy improvements as part of other projects decreases the cost of the energy project. Similarly, energy dollars can make facility improvement projects financially feasible. The majority of SBECP projects funded in the past four years have also included LRBP funds.

SBECP has leveraged funding from NorthWestern Energy and Montana Dakota Utility Company through their demand-side management and universal system benefit programs. NorthWestern Energy and its predecessor, the Montana Power Company,

have provided more than \$1 million in incentive payments since 1993.

There is an increased opportunity to leverage funds from NorthWestern Energy (NWE) in the future. NWE is targeting lighting rebates and other business partner programs and will evaluate proposed facility improvement projects. DEQ has referred agencies with small electrical projects directly to NorthWestern Energy to help identify savings from projects and to provide rebates. Every project with potential electrical energy savings in NorthWestern Energy's service territory is taken to them for incentive funding as the project is designed. NorthWestern Energy often provides about 25% of the cost of lighting retrofits and considers pumps and motors and other electrical savings.

A new partner this year is Wal-Mart. The National Governors' Association partnered with Wal-Mart to provide energy audits in a few state buildings in 19 states. Montana applied and was selected through a competitive process to be one of the states to receive a walk-through audit of four buildings. These included the Historical Society, Mitchell Building, Justice Building and State Fund Building, all in Helena. The walk-through audits were conducted in July, 2008 and reports are expected in the fall.

2009 Legislation

The State Buildings Energy Conservation Program requires legislation each biennium to appropriate funds for program operation and energy projects. DEQ will work with the Office of Budget and Program Planning to request increased authorization for the program due to a large number of projects identified to meet the Governor's 20 x 10 Initiative, and significant LRBP requests. It is timely because the increased costs in electricity and natural gas will make operating budgets tight and at the same time provide opportunities for projects to pay for themselves more easily with energy savings.

The proposed legislation will also add clarification to the statute to allow the program to consider alternative energy and water conservation projects that save money. With increasing costs for energy, more renewable energy projects will be able to meet the program's cost effectiveness test.

Adding renewable energy language to the statute is more of a clarification than a change in the program as DEQ has already incorporated alternative energy systems into energy efficiency projects in state agencies. A recent example is the wood-fired boiler at UM-Western. As well as providing a more efficient heating system, the boiler utilizes wood waste to promote the beneficial use of woody biomass "waste" from forests. Water conservation also has already been incorporated with energy efficiency in projects. In a renovation of the cooling system at the Mitchell building in Helena, the savings of city water resulted in large cost savings that helped to pay for the cost of the new system. Projects in Havre and Great Falls achieved similar water utility savings.

Most recently the Department of Administration installed a solar wall heater on the renovation of the 1100 North Last Chance Gulch building that houses DEQ's Remediation Division and Energy and Pollution Prevention Bureau. That system pre-

heats the air that is delivered to the building's heating and ventilation system and is projected to pay for itself in less than 10 years. DEQ has been contacted by the departments of Military Affairs, Corrections and Natural Resources and Conservation, and the University system to consider renewable energy systems on their facilities and is interested in possible renewable energy applications at DEQ's remediation sites.

Legislation requests in 2009 will include a source of funding for the program and additional FTE for the program. In 2007, funding changed from general obligation bonds to general funds. The use of general funds provides the benefit that there are no upfront costs to sell the bonds and no interest payments due on the bonds. This provides additional money that can go into projects. The general funds are being repaid from the energy savings, so they can be used again and again. If sufficient general funds were allocated, it would be possible to set up a revolving program where savings could be captured from projects and reinvested into new projects. It might take several legislative sessions and allocations of funding to fully set up a revolving program. The sale of general obligation bonds to finance improvements also works well and has an established and successful record.

In summary, the State Buildings Energy Conservation Program has increased its efforts to reduce energy use and cost in state government and has been closely aligned with the goals of Governor Schweitzer's 20 x 10 Initiative. The program has improved its operations, increased contacts with state agencies, and is developing a data base to better manage information and identify opportunities to reduce energy use. Most notably, the program has greatly increased the number of energy analyses conducted and identified a large number of buildings with a potential for savings. This will result in significant legislation in the 2009 Legislative Session.

Introduction/Update

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Background

The State Buildings Energy Conservation Program improves facilities and equipment at no net cost to state government when considering energy savings. Investments are made in energy and water efficiency resulting in reduced utility and other operating costs. The savings resulting from the projects are used to repay the investments. After an energy retrofit, a state agency splits its payment between lower utility costs and repayment of the investment; this total is equal to or less than the pre-retrofit energy costs it had been paying. After the investments are paid off, the state continues to realize energy and water savings, and the agency has continued benefits from the new equipment and improved buildings.

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Program Growth—Governor Schweitzer's 20 x 10 Initiative

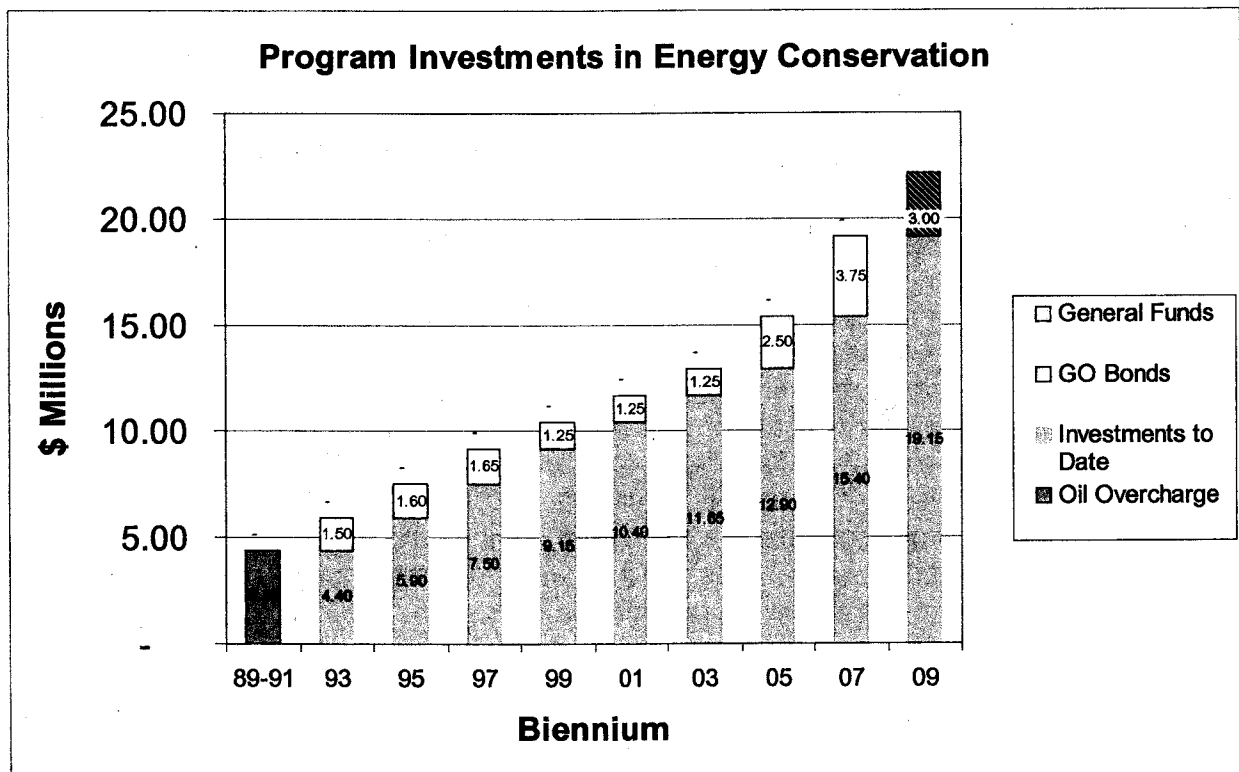
In November of 2007, Governor Schweitzer announced an initiative to reduce energy use in state government 20% by the end of 2010. This announcement followed the acceptance of the Montana Climate Change Action Plan that had been developed by a diverse group of Montanans appointed by Governor Schweitzer. One of the recommendations in the Plan was that state government should "Lead by Example." The 20 x 10 Initiative calls on executive branch agencies to reduce energy use in buildings, operations, and transportation and directs the departments of Environmental Quality, Administration and Transportation to lead the 20 x 10 effort.

The State Buildings Energy Conservation Program is one of the primary means available to state agencies to reduce energy use and energy cost in buildings. The 20X10 initiative has spurred interest by all state agencies in the program, and there has been a rapid increase in the number of energy studies being conducted in preparation for additional investments in building energy efficiency. DEQ has contacted all state agencies to assess the needs for energy studies and is initiating about 50 energy studies in the current biennium. Projects from these studies will be proposed for funding in the 2009 Legislative Session, resulting in a much larger proposal for funding than ever before. The increase in size of the proposal

for funding is timely because natural gas rates are predicted to increase by 50-60% in the next year and electricity rates are already high in most areas of the state.

Update on Projects

The program was started using \$4.4 million in Stripper Well oil overcharge funds which are now exhausted. The program has issued \$14.75 million in general obligation bonds between 1993 and 2007 and \$3 million in state general funds in 2008 and 2009 to fund projects and operate the program. The graph below shows the growth in the program over time.



The program has completed 84 projects to date. There are 7 additional projects in design and construction.

Cumulative energy savings captured through FY08 totals over \$11 million. DEQ reported to the budget office in July 2008 anticipated savings for projects completed up to that date at \$1,026,435 for FY10 and \$962,650 for FY11.

Projects come into the program in two ways: either directly to the program because of the energy saving benefits of the project; or in conjunction with other work planned under the Long Range Building Program that provides an opportunity for energy savings. DEQ contacts state agencies about the program and offers assistance in evaluating energy use and identifying energy conservation projects. Program engineers evaluate all projects proposed for the Long Range Building Program (LRBP)

administered by the state's Architecture and Engineering Division (A&E) to assess the energy savings potential on proposed remodeling projects. Projects with the potential for energy savings are funded through the State Buildings Energy Conservation Program, or are often jointly funded with the LRBP funding deferred maintenance and SBECP funding energy improvements.

Projects listed below are those completed in the 2008-2009 biennium or currently in the planning, design or construction phase.

2008-2009 Projects

<u>Agency</u>	<u>Projects Completed During 2008-2009 Biennium</u>	<u>Location</u>	<u>Project Description</u>
Administration	Last Chance Gulch Building	Helena	HVAC and envelope improvements, solar wall
Administration	Mitchell and Museum, Phase 2	Helena	HVAC system improvements
Board of Public Education	Aspen Hall	Great Falls	HVAC, lighting and control upgrades
Board of Public Education	Bitterroot Hall	Great Falls	Chiller improvements
Corrections	Montana State Prison, Dairy Dorm Expansion	Deer Lodge	Heating system and envelope improvements
Corrections	Montana State Prison, High Side Kitchen	Deer Lodge	Boiler, hot water and control improvements
Fish, Wildlife and Parks	Region 7 Shop	Miles City	HVAC, lighting and control upgrades
Justice	Aspen, Maple and Spruce Buildings	Helena	Heating system improvements
MSU-Billings	Auxiliary Buildings Boiler	Billings	Heating system improvements
MSU-Billings	Campus-wide	Billings	Automated control system
MSU Great Falls	College of Technology	Great Falls	Boiler upgrade
MSU Great Falls	COT Expansion	Great Falls	HVAC and control upgrades
MSU-Northern	Pershing Hall	Havre	HVAC, lighting and envelope improvements
Public Health and Human Services	Mental Health Nursing Care Center	Lewistown	Boiler and control improvements
University of Montana	Health Science Phase 2	Missoula	Ground water cooling, hot water, heating system and control improvements
UM Helena	College of Technology	Helena	High-efficiency heating system, controls
UM - Western	Central Plant	Dillon	Replaced campus central heating system with wood-fired boiler

<u>Projects in Construction</u>			
<u>Agency</u>	<u>Projects Completed During 2008-2009 Biennium</u>	<u>Location</u>	<u>Project Description</u>
MSU Billings	McMullen Hall	Billings	HVAC envelope and lighting upgrade
MSU Northern	Physical Education and Library	Havre	Boiler replacement
MT Tech of UM	MT Tech COT	Butte	Mechanical upgrade and lighting
<u>Projects in Design</u>			
Administration	Enterprise System Building	Helena	Air-to-Air heat Exchanger
Fish, Wildlife and Parks	Visitor Centers	Billings	Ground-coupled heat and cooling
University of Montana	Mansfield Library	Missoula	Chiller replacement and HVAC upgrade

Buildings Being Audited

Listing of Contacts with State Agencies

All executive branch state agencies have been contacted this biennium to review projects with potential for energy and cost savings. Many are proceeding with energy studies that will result in a large number of projects for the 2010-2011 biennium. In addition, DEQ has reviewed the projects proposed under the Long Range Building Program (LRBP) in conjunction with the Department of Administration's Architecture and Engineering Division. Increased efforts under LRBP for the past several years have provided increased work for the SBECF because of opportunities to save energy when other renovations are being done. Energy savings are expected to be the driving force for more projects in the future because of the high cost of energy. In addition to the executive agencies, DEQ has evaluated projects at universities and agencies attached to elected officials.

State agencies contacts were coordinated with the Office of Budget and Program Planning as part of the 20 x 10 Initiative. Agencies were asked to identify energy efficiency work in buildings, capital improvement projects, purchasing efforts and transportation efficiency in plans submitted through the budget process. DEQ reviewed the agencies' efficiency plans and worked with agencies to identify state-owned buildings that needed energy audits. The following is a list of contacts made with agencies:

Arts Council
Board of Crime Control
Board of Public Education
Department of Administration

Department of Agriculture
Department of Commerce
Department of Environmental Quality
Department of Justice
Department of Labor and Industry
Department of Livestock
Department of Military Affairs
Department of Natural Resources and Conservation
Department of Public Health and Human Services
Department of Revenue
Department of Transportation
Fish, Wildlife and Parks
Historical Society
Montana State University - Billings
Montana State University - Northern
Office of Public Defender
Office of Public Instruction
Public Service Commission
Secretary of State
State Library
University of Montana Tech
University of Montana - Missoula

Summary of Analyses Conducted by DEQ

The 20 x 10 initiative has created interest and need for energy analyses of buildings. Recognizing that achieving a 20 percent reduction in energy use in three years would require significant investment in buildings, an effort was undertaken to complete energy analyses on many buildings in 2008 to identify the potential for savings. Consultants were needed to complete analyses of buildings. DEQ selected 14 engineering firms through a request for qualifications and has negotiated contracts with 13 of the firms to complete energy analyses. In addition, DEQ and some individual state agencies have asked NorthWestern Energy to provide lighting audits on buildings where a comprehensive study is not needed. The table below shows energy analyses that have been completed and funding for projects authorized.

Energy Analyses Completed and Projects Authorized between July 1, 2006 and June 30, 2008

Agency	Building	Funding Authorized	Annual Energy Cost Savings	Status
Administration	1100 North Last Chance Gulch, Helena	\$ 85,000	\$20,000	Completed
Administration	Walt Sullivan, Helena	\$139,100	\$13,308	Completed without State Building Program funding
Board of Public Education	Aspen Hall Classroom, Great Falls	\$ 28,000	\$ 4,000	Completed
Board of Public Education	Bitterroot Hall, Great Falls	\$ 11,000	\$ 1,000	Completed
Corrections	Montana State Prison High Side Kitchen, Deer Lodge	\$151,000	\$22,000	Completed
Corrections	Montana State Prison Dairy Dorm Expansion, Deer Lodge	\$120,000	\$12,145	Completed
Justice	Law Enforcement Academy Aspen, Maple, Spruce Buildings, Helena	\$143,000	\$23,000	Completed
Montana State University, Billings	Auxiliary Bldgs, Boilers, Billings	\$424,500	\$42,000	Completed
Montana State University, Billings	McMullan Hall, Billings	\$334,160	\$23,000	In Construction
Montana State University, Great Falls	College of Technology	\$880,000	\$95,000	Completed
Montana State University, Northern	Pershing Hall, Havre	\$ 22,000	\$ 2,800	Completed
Montana State University, Northern	PE & Library Building, Havre	\$157,000	\$23,000	In Construction
Montana Tech of University of Montana	College of Technology, Butte	\$281,000	\$27,392	In Construction
Public Health and Human Services	Mental Health Nursing Care, Lewistown	\$ 85,000	\$ 8,800	Completed
University of Montana	Performing Arts, Radio and TV, Missoula	\$ 25,000	\$ 3,200	In Construction

Preliminary Analysis Completed between July 1, 2006 and June 30, 2008

This table shows the results of preliminary analysis of buildings and the potential for energy savings. Energy analyses have been completed and energy savings estimated. These projects are under development. The cost for these projects and details on how much investment can be recovered with energy savings will be determined as the projects proceed through design and bidding.

Agency	Building	Estimated Energy Savings
Administration	Liquor Warehouse, Helena	\$13,145
Administration	Records Management Bureau, Helena	\$ 3,219
Administration	Capitol Complex, Helena	\$32,000
Administration	Statewide Data Center	\$68,000
Corrections	Law Enforcement Academy Campus-wide Lighting Upgrade, Helena	\$ 850
Fish, Wildlife and Parks	Region 7 Headquarters, Miles City	\$ 3,500
Labor and Industry	Job Service Offices, Statewide	\$ 6,201
Natural Resources and Conservation	Spurgin Rd Complex, Missoula	\$ 9,131
Transportation	Headquarters, Helena	\$75,000
University of Montana, Missoula	Law Building Lighting, Missoula	\$ 7,674
University of Montana, Missoula	Mansfield Library, Missoula	\$ 3,500

Additional Projects Under Consideration

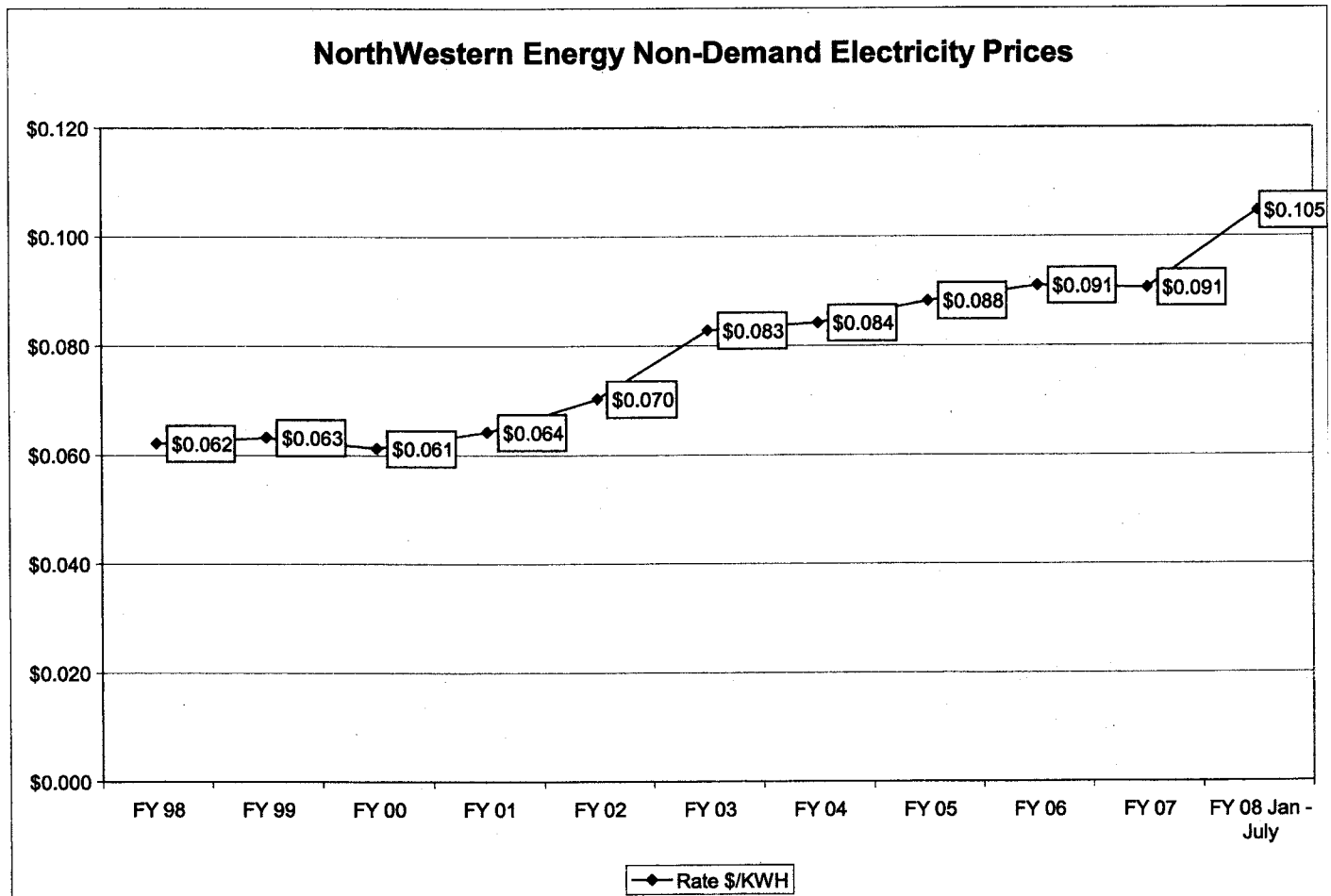
DEQ has contracted or is considering contracting for energy studies on the following buildings. Additional facilities will continue to be added to this list as an ongoing part of the State Buildings Energy Conservation Program.

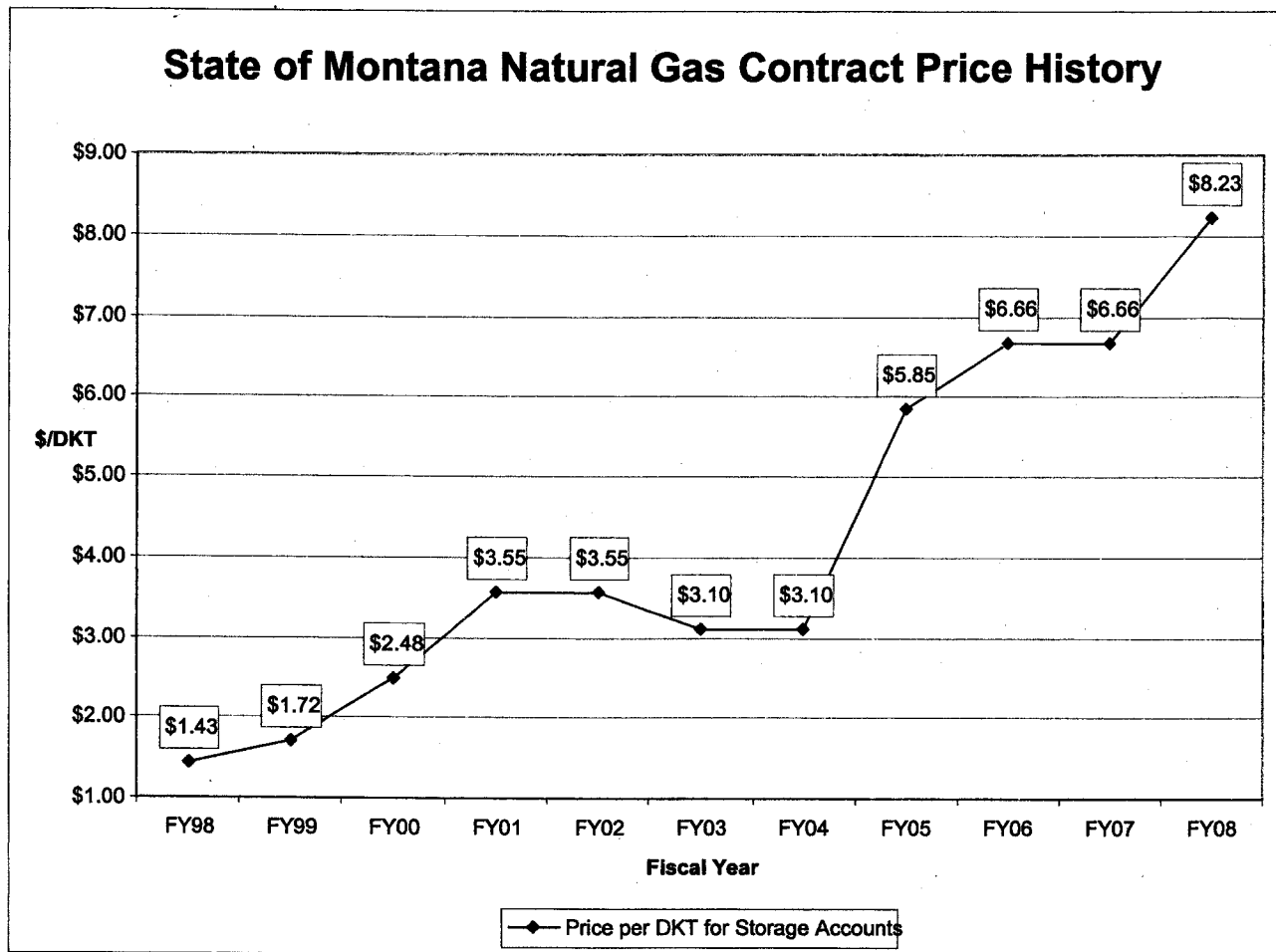
Agency	Building
Administration	Old Liquor Warehouse, Helena
Administration	Old Livestock, Helena
Administration	Scott Hart, Helena
Administration	Old Board of Health, Helena
Administration	Capitol Complex, Deferred Maintenance and Energy, Helena
Administration	Capitol Complex Controls, Helena
Administration	Mitchell Building, Helena
Administration	Historical Society Museum, Helena
Administration	Justice Building, Helena
Administration	State Fund Building, Helena
Administration	1225 8 th Avenue, Helena
Administration	1219 8 th Avenue, Helena
Administration	1209 8 th Avenue, Helena
Administration	1205 8 th Avenue, Helena
Administration	1218 E. 6 th Avenue, Helena
Administration	1236 E. 6 th Avenue, Helena
Agriculture	State Grain Lab Facility/Energy Upgrade, Great Falls
Board of Education	Montana School for Deaf & Blind, Mustang Physical Education Complex, Great Falls
Board of Education	Montana School for Deaf & Blind, Administration Building, Great Falls
Board of Education	Montana School for Deaf & Blind, Vocational Building, Great Falls
Corrections	MSP, Deer Lodge
Corrections	Riverside Youth Home, Boulder
Corrections	Prison Industries, Deer Lodge

Agency	Building
Fish, Wildlife & Parks	Administrative Facilities Statewide
Fish, Wildlife and Parks	Headquarters, Kalispell
Fish, Wildlife and Parks	Hatcheries, Statewide
Fish, Wildlife and Parks	Headquarters, Great Falls
Justice	State Crime Lab, Missoula
Labor and Industry	Job Service, Butte
Labor and Industry	Job Service, Missoula
Labor and Industry	Job Service, Miles City
Labor and Industry	Job Service, Kalispell
Labor and Industry	Job Service, Great Falls
Labor and Industry	Job Service, Bozeman
Military Affairs	Facilities Statewide
Montana State University, Bozeman	Central Plant, Bozeman
Montana State University, Northern	Auto tech Center, Havre
Montana University System	Campus-wide Improvements, Statewide
Natural Resources & Conservation	Fire and land office campuses, Statewide
Office of Public Instruction	1300 11 th Avenue, Helena
Office of Public Instruction	1227 11 th Avenue, Helena
Public Health & Human Services	Developmental Center, Boulder
Public Health & Human Services	State Hospital, Warm Springs
Public Health & Human Services	State Hospital Geothermal Development, Warm Springs
Public Health & Human Services	Veterans Home, Columbia Falls
Public Health and Human Services	Campus-wide, Boulder
Transportation	Regional Complexes, Statewide
Transportation	Headquarters, Helena
Transportation	Hanger/Aeronautics, Helena
Transportation	Headquarters Complex, Billings

Utility Budgets and Energy Procurement

Energy costs have risen dramatically in the biennium. The 2008-2009 term contract for natural gas is 23% higher than in 2007 and more than double the cost of the 2004 contract. Natural gas price increases have climbed 38% from 2007 to the present time for agencies that purchase natural gas outside of the state term contract. Electric rates also have increased steadily in recent years. It is difficult to predict whether costs will remain at current levels, return to more moderate levels, or continue to increase, although it is unlikely that they will return to the costs of the 1990s. High energy prices provide more opportunities for energy savings to pay for project costs. However, the uncertainty of future rates adds complexity to the analysis of long-term savings from investments in energy conservation. A drop in rates could make it difficult for savings to be substantial enough to cover the costs of construction. The tables below show the costs for natural gas under the state term contract and the non-demand electricity rate for NorthWestern Energy customers, the majority of state government accounts.





New Program to Track Energy Costs in State Government

Simply looking at utility bills monthly and comparing the costs of energy from one year to another can indicate an opportunity for energy savings. Anomalies in bills can show billing errors, or indicate that a building or system is experiencing problems that need to be addressed. DEQ conducted a pilot project to monitor utility bills from July 2002 through June 2005 and concluded that there was benefit in pursuing a program that would monitor utility use and cost for all agencies. When the Governor announced the 20 x 10 Initiative, one of the first things that needed to be determined was the baseline energy use of each agency. The information learned in the pilot study on utility bill monitoring was used to develop a request for proposal for software that would allow the tracking of energy use and cost. Good Steward Software submitted the winning proposal and a contract was issued for its Energy Cap software in June of 2008.

The Risk Management and Tort Claims Division of the Department of Administration provided a list of facilities insured by state government. State agencies were surveyed in December of 2007 to gather more information on buildings and facilities and on energy suppliers for natural gas, electricity, fuel oil and propane. The suppliers are being asked to provide detailed billing information for all state buildings. The process of

matching electronic billing data with physical site information into a data base is underway. The resulting data base will provide both the baseline energy use that agencies are being asked to reduce, as well as a comparative index to identify high energy consumers. All electric utilities have contributed information to this effort. NorthWestern Energy has provided its gas data, and other gas utilities are being contacted.

Progress in Addressing Additional Opportunities for Energy Efficiency in State Government

State government is a significant consumer of electricity and natural gas, spending millions of dollars a year on energy. The State Buildings Energy Conservation Program has a sound track record as an excellent program to achieve long-term energy savings. However, the role of energy conservation in state government is shared by several agencies and includes more than just the long-term energy savings from retrofits to state buildings. In 2006 a group of state officials was informally organized to look at ways to increase energy efficiency on various levels. The group included representatives from the Governor's Office, the Department of Administration's Architecture and Engineering, and General Services Divisions, and DEQ. The group identified several things that could be done to improve the efficiency in state buildings. Listed below in *italics* are the recommendations made in 2006. Progress made toward those recommendations is reported in normal font.

Recommendation 1: Determine energy use at large state facilities through a benchmarking process and identify those with potential for savings.

DEQ has purchased software and is beginning the process of collecting data on all state-owned buildings. This software is capable of providing a comparison of energy use by square footage of building, and also comparing a building's energy use to other buildings of similar size, age and use. While benchmarking has been completed on relatively few buildings at this time, the capability to benchmark buildings has been established.

Recommendation 2: Review energy efficiency evaluations performed within the past ten years and complete cost-effective improvements or changes in practices as soon as possible. Items that were not cost effective in the past may be cost effective now because of increased energy costs.

An intern was hired for the summer of 2008 to begin the process of reviewing studies on buildings completed from 1989 to the present and to begin to organize the data from those reports in both hard-copy format and with an electronic summary.

Recommendation 3: Require equipment purchases to meet energy efficient standards, such as Energy Star or premium efficiency motors.

The Departments of Administration and Environmental Quality are working together to educate state government procurement officers and all staff with responsibility to

purchase about Energy Star and to have that be the standard of choice for state procurement. Many state agencies have identified that they purchase or will purchase Energy Star computers and appliances. To assist agencies in making all purchases energy efficient and environmentally sound, the Departments of Administration and Environmental Quality jointly sponsored a training conference for state government employees and other interested city and federal governments and the private sector on green purchasing in July of 2008. There were 113 people trained at the conference.

Recommendation 4: Incorporate energy efficiency into the design of new facilities or additions. Consider LEED levels of efficiency.

The Department of Administration Architecture and Engineering Division is working on a LEED (Leadership in Energy and Environmental Design) building with the University of Montana. In addition, DEQ has provided information to the Environmental Quality Council, at its request, about energy efficiency standards for new state buildings, and DEQ and DOA are commenting on proposed Legislation.

Recommendation 5: Direct agencies to manage their utility budgets. This would require getting information on energy use and expenditures to facility managers and agency directors.

Agencies were directed to reduce energy budgets as part of Governor Schweitzer's 20 x 10 Initiative, which will require managing budgets. DEQ wrote a request for proposal and selected a software system to manage energy data for state facilities. An intern and temporary position have been hired to assist in acquiring data, verify accuracy and enter into the data base.

Recommendation 6: Work with building operators and state employees to initiate energy saving programs in buildings. Provide information on low-cost or no-cost ways to save energy through building adjustments and operations. For example, the use of efficient alternatives to space heating, use of LED exit lights and duplex printing are small budget items that add up to significant savings.

Through the 20 x 10 Initiative every state agency has identified an energy coordinator. DEQ developed a model plan for every state agency and energy coordinators have developed agency plans based on the model. DEQ has conducted two training sessions so far, and will conduct additional sessions. Lighting training sessions were conducted in Billings and Helena. DEQ has and will continue to organize sessions for energy coordinators to get together to discuss what is going on in different agencies and to share information on effective programs.

Recommendation 7: Find ways to better take advantage of opportunities for short term energy savings. Particularly savings from utility company demand-side management and universal system benefit programs.

NorthWestern Energy was invited to participate in lighting training sessions in both Helena and Billings and to explain its program for lighting rebates. Agencies have been

informed of utility programs and have been encouraged to use them for small buildings, or for electric-only opportunities.

Recommendation 8: Increase retro commissioning of state buildings. Find ways to better gain savings from activities such as commissioning that do not fit well with the long-term savings nature of the State Buildings Energy Conservation Program. It is difficult to verify savings from a process like commissioning because it is not known what the savings will be before the costs are incurred for the study. It is also difficult because the savings may occur over 2-3 years making it unrealistic to finance the project over 10 to 15 years.

This recommendation will need to be worked on in the future.

Recommendation 9: Take advantage of utility company demand-side management programs. These programs provide a portion of the cost of projects, usually for electricity only. The projects are often low-cost and do not fit well with the long-term financing nature of the SBECP.

DEQ has also arranged with NorthWestern Energy to review each of the approximately 50 audits being conducted on state buildings to determine what energy savings they may be willing to provide funding for. This review may include typical savings such as lighting rebate calculations, but will also include savings from more comprehensive energy upgrades

Coordinating Efforts, Establishing Partnerships and Leveraging Funds

State government leads energy efficiency efforts in Montana because of its long-term commitment to improving energy efficiency of buildings. DEQ completes this work through partnerships with other state agencies, the federal government, the university system and utility companies. DEQ is able to help schools and local governments implement programs using the expertise gained through the State Buildings Energy Conservation Program (SBECP).

A key partner for the SBECP is the Department of Administration's Architecture and Engineering Division (A & E). A & E provides design and construction services for capital improvement projects on state-owned facilities, including the energy projects authorized through the SBECP. It also administers the Long Range Building Program (LRBP). SBECP staff engineers review LRBP proposals for potential energy conservation projects. The two agencies coordinate this review to maximize the return for the state's dollars. Including energy improvements as part of other projects decreases the cost of the energy project. Similarly, energy dollars can make facility improvement projects financially feasible. The majority of SBECP projects funded in the past four years have also included LRBP funds.

SBECP has leveraged funding from NorthWestern Energy and Montana Dakota Utility Company through their demand-side management and universal system benefit programs. NorthWestern Energy and its predecessor, the Montana Power Company,

have provided more than \$1 million in incentive payments since 1993.

There is an increased opportunity to leverage funds from NorthWestern Energy (NWE) in the future. NWE is targeting lighting rebates and other business partner programs and will evaluate proposed facility improvement projects. DEQ has referred agencies with small electrical projects directly to NorthWestern Energy to help identify savings from projects and to provide rebates. Every project with potential electrical energy savings in NorthWestern Energy's service territory is taken to them for incentive funding as the project is designed. NorthWestern Energy often provides about 25% of the cost of lighting retrofits and considers pumps and motors and other electrical savings.

A new partner this year is Wal-Mart. The National Governors' Association partnered with Wal-Mart to provide energy audits in a few state buildings in 19 states. Montana applied and was selected through a competitive process to be one of the states to receive a walk-through audit of four buildings. These included the Historical Society, Mitchell Building, Justice Building and State Fund Building, all in Helena. The walk-through audits were conducted in July, 2008 and reports are expected in the fall.

2009 Legislation

The State Buildings Energy Conservation Program requires legislation each biennium to appropriate funds for program operation and energy projects. DEQ will work with the Office of Budget and Program Planning to request increased authorization for the program due to a large number of projects identified to meet the Governor's 20 x 10 Initiative, and significant LRBP requests. It is timely because the increased costs in electricity and natural gas will make operating budgets tight and at the same time provide opportunities for projects to pay for themselves more easily with energy savings.

The proposed legislation will also add clarification to the statute to allow the program to consider alternative energy and water conservation projects that save money. With increasing costs for energy, more renewable energy projects will be able to meet the program's cost effectiveness test.

Adding renewable energy language to the statute is more of a clarification than a change in the program as DEQ has already incorporated alternative energy systems into energy efficiency projects in state agencies. A recent example is the wood-fired boiler at UM-Western. As well as providing a more efficient heating system, the boiler utilizes wood waste to promote the beneficial use of woody biomass "waste" from forests. Water conservation also has already been incorporated with energy efficiency in projects. In a renovation of the cooling system at the Mitchell building in Helena, the savings of city water resulted in large cost savings that helped to pay for the cost of the new system. Projects in Havre and Great Falls achieved similar water utility savings.

Most recently the Department of Administration installed a solar wall heater on the renovation of the 1100 North Last Chance Gulch building that houses DEQ's Remediation Division and Energy and Pollution Prevention Bureau. That system pre-

heats the air that is delivered to the building's heating and ventilation system and is projected to pay for itself in less than 10 years. DEQ has been contacted by the departments of Military Affairs, Corrections and Natural Resources and Conservation, and the University system to consider renewable energy systems on their facilities and is interested in possible renewable energy applications at DEQ's remediation sites.

Legislation requests in 2009 will include a source of funding for the program and additional FTE for the program. In 2007, funding changed from general obligation bonds to general funds. The use of general funds provides the benefit that there are no upfront costs to sell the bonds and no interest payments due on the bonds. This provides additional money that can go into projects. The general funds are being repaid from the energy savings, so they can be used again and again. If sufficient general funds were allocated, it would be possible to set up a revolving program where savings could be captured from projects and reinvested into new projects. It might take several legislative sessions and allocations of funding to fully set up a revolving program. The sale of general obligation bonds to finance improvements also works well and has an established and successful record.

In summary, the State Buildings Energy Conservation Program has increased its efforts to reduce energy use and cost in state government and has been closely aligned with the goals of Governor Schweitzer's 20 x 10 Initiative. The program has improved its operations, increased contacts with state agencies, and is developing a data base to better manage information and identify opportunities to reduce energy use. Most notably, the program has greatly increased the number of energy analyses conducted and identified a large number of buildings with a potential for savings. This will result in significant legislation in the 2009 Legislative Session.